CLAIMS:

1. Method for measuring a switched current (I_H) which is periodically switched on and off, and providing a measuring signal (S1) accurately reflecting said current (I_H), the method comprising the steps of:

- sensing said switched current (I_H) with a current sensor (120) to obtain an intermediate measuring signal (V_{HM}) corresponding to an AC part of said current (I_H);
- receiving a timing signal indicating the on and off periods of the switched current (I_H);
- during an off period, generating an auxiliary signal ($V_{OFF,H}$) such that the sum of said intermediate measuring signal and said auxiliary signal is equal to zero;
- during an on period, adding said intermediate measuring signal and said auxiliary signal and providing the sum signal as output measuring signal (S1).

2. Method according to claim 1, wherein the timing signal is a switch control signal.

3. Method for measuring a switched bridge current (I_4) and for providing a measuring signal (S3) accurately reflecting said current (I_4), said switched bridge current (I_4) being periodically switched between a first current source and a second current source in a bridge (1) which comprises a first branch (21) providing a first switched current (I_H) corresponding to the first current source and a second branch (22) providing a second switched current (I_L) corresponding to the second current source, the method comprising the steps of:

- providing a first measuring signal (S1) reflecting the first switched current (I_H) using a method according to claim 1;
- providing a second measuring signal (S2) reflecting the second switched current (I_L) using a method according to claim 1;
- adding the first and second measuring signals.

4. Switch current measuring circuit (100) for measuring a current (I_H) in a switch (11) and providing a measuring signal (S1) accurately reflecting said current (I_H), the circuit comprising a current sensing stage (110) for providing an intermediate measuring signal (V_{HM}) corresponding to an AC part of said current (I_H), and an offset stage (150) for adding an offset ($V_{OFF,H}$) to the intermediate measuring signal (V_{HM}).

5. Switch current measuring circuit according to claim 4, wherein the current sensing stage (110) comprises an AC current transformer (120) having a primary winding (121) for sensing the current (I_H) to be measured, and having a secondary winding (122) providing an intermediate measuring signal (V_{HM}).

6. Switch current measuring circuit according to claim 5, further comprising a measuring resistor (123) coupled in parallel to the secondary transformer winding (122).

7. Switch current measuring circuit according to claim 4, wherein the offset stage (150) comprises an adder (160) having a first input (161) coupled to receive the intermediate measuring signal provided by the current sensing stage (110), and having a second input (162) coupled to an output of an offset generator (170), and having an output (163) for providing the output measuring signal (S_1).

8. Switch current measuring circuit according to claim 7, wherein the offset generator (170) has a timing input (171) for receiving a signal indicating a current off period, and wherein the offset generator (170) further has a feedback input (173) coupled to the output (163) of the adder (160).

9. Switch current measuring circuit according to claim 8, wherein the timing input (171) of the offset generator (170) is coupled to a control input of the first switch (11).

10. Switch current measuring circuit according to claim 7, wherein the offset generator (170), during an off period of the current (I_H), is designed to generate an auxiliary signal ($V_{OFF,H}$) such that the sum of said intermediate measuring signal (V_{HM}) and said auxiliary signal ($V_{OFF,H}$) is equal to zero; wherein the offset generator (170), during an on period, is designed to add said intermediate measuring signal (V_{HM}) and said auxiliary signal ($V_{OFF,H}$) and to provide the sum signal (S1) as output measuring signal.

11. Current sensing circuit (50) for measuring a switched bridge current (I_4) and for providing a measuring signal (S3) accurately reflecting said current (I_4), said switched bridge current (I_4) being periodically switched between a first current direction and a second current direction in a bridge (1) which comprises a first branch (21) providing a first switched current (I_H) corresponding to the first current direction and a second branch (22) providing a second switched current (I_L) corresponding to the second current direction; the circuit (50) comprising:

- a first switch current measuring circuit (100) according to claim 4, associated with said first branch (21);

- a second switch current measuring circuit (200) according to claim 4, associated with said second branch (22);

- an adder (300) for adding the output signals (S1, S2) of the first and second switch current measuring circuits.

12. Inverter circuit, comprising a current sensing circuit according to claim 11.

13. Converter circuit, comprising a current sensing circuit according to claim 11.

14. Pulse width modulated circuit, comprising a current sensing circuit according to claim 11.